ABSTRACT

The invention provides novel scale-based filtering methods that use local structure size

5   or "object scale" information to arrest smoothing around fine structures and across even low-gradient boundaries. One method teaches a weighted average over a scale-dependent neighborhood; while another employs scale-dependent diffusion conductance to perform filtering. Both methods adaptively modify the degree of filtering at any image location depending on local object scale. This permits a restricted homogeneity parameter to be

10   accurately used for filtering in regions with fine details and in the vicinity of boundaries, while at the same time, a generous filtering parameter is used in the interiors of homogeneous regions.